

## REMARKS

Applicants appreciate the thorough examination of the present application as evidenced by the Final Office Action of May 29, 2007. Applicants respectfully submit that Claims 12-30 are patentable over the cited references for at least the reasons discussed herein. Accordingly, allowance of the pending claims is respectfully request in due course.

### **The Section 102/103 Rejections**

Claims 12-19 and 30 stand rejected under 35 U.S.C. § 102 as being anticipated by United States Patent No. 5,583,362 to Maegawa (hereinafter "Maegawa"). *See* Final Office Action, page 4. Claims 20-29 stand rejected under 35 U.S.C. § 103 as being unpatentable over Maegawa in further view of United States Patent No. 6,420,758 to Nakajima (hereinafter "Nakajima"). *See* Office Action, page 8. Since the rejections in the Final Office Action are identical to those in the previous action except for the addition of Claim 30 to the rejections, Applicants will not repeat the arguments made in their Amendment of March 28, 2007 in the interest of brevity. However, the arguments made in Applicants' Amendment of March 28, 2007 are incorporated herein by reference as if set forth in their entirety. Thus, Applicants will limit their remarks herein to the Response to Arguments section of the Final Office Action.

### **Response to Arguments**

Responsive to Applicants arguments that Maegawa does not disclose "forming a horizontal channel between the source and drain regions, the horizontal channel including at least two horizontal channel regions formed in spaced apart patterns, wherein the source and drain regions are formed in other patterns adjacent to sides of the spaced apart patterns" as recited in Claim 1 (Independent Claim 30 contains similar recitations), the Final Office Action points to Figures 15, 30, 19B and 20 of Maegawa as providing the teachings of Claim 1. Applicants respectfully disagree.

The Final Office Action points to the fifth (figure 15) and seventh (figure 19B) embodiments of Maegawa as providing the teachings of Claims 1 and 30 of the present application. In particular, the Final Office Action states:

...Maegawa's Abstrat [sic] states 'the control electrode forms a channel in each of two opposed surfaces of the channel member.' Thus, two horizontal channel regions formed in spaced apart patterns. One on the top surface and one on the bottom surface. See marked-up figure 15 below...

In regards to the source and drain regions are formed in other patterns adjacent the sides of the spaced apart patterns. This is shown in Figure 19B below which has also been marked up for clarity.

See Final Office Action, pages 2-3. Applicants acknowledge that Maegawa teaches that the control electrode forms a channel in each of two opposed surfaces of the channel member. See Applicants' Amendment of March 28, 2007, page 6. However, nothing in Maegawa discloses or suggests "forming a horizontal channel between the source and drain regions, the horizontal channel including at least two horizontal channel regions formed in spaced apart patterns, **wherein the source and drain regions are formed in other patterns adjacent to sides of the spaced apart patterns** as recited in Claim 1. Claim 30 contains similar recitations.

In particular, the Final Office Action points to one embodiment (Figure 15) of Maegawa as providing the horizontal channel regions recitations of Claim 1 and then to a completely different embodiment (Figure 19B) of Maegawa as providing the highlighted teachings of Claim 1. This is not proper. Nothing would motivate one of skill in the art to combine the embodiments of Maegawa as suggested in the Final Office Action. In fact, nothing in Maegawa discloses or suggests combining the embodiments of Figure 15 and Figure 19B as suggested in the Final Office Action. It appears that the Final Office Action uses Applicants' disclosure to locate teachings, combines those teachings using hindsight and then concludes that the combination would have been obvious. This is clearly not proper and, therefore, a prima facie case of obviousness has not been established in the Final Office Action for at least these reasons.

Furthermore the Final Office Action points to Figure 20 of Maegawa as providing the "multiple layer and multiple channel device" corresponding to Figure 19B. See Final Office Action, page 2. Applicants respectfully submit that Figure 20 is not associated with Figure 19B. See Maegawa, Description of the Figures (19B is seventh embodiment and 20 is the ninth embodiment) and column 12, lines 52-65. The Office Action arbitrarily combines the embodiments of Maegawa to teach the recitations of Claims 1 and 30 without any motivation besides Applicants' disclosure, which is an inappropriate basis for combination. Accordingly,

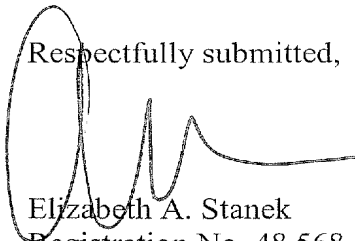
Applicants respectfully submit that independent Claims 1 and 30 and the claims that depend therefrom are patentable over the cited combination for at least these additional reasons discussed herein.

Finally, nothing in the Response to Arguments section of the Final Office Action addresses Applicants' arguments in their Amendment of March 28, 2007 with respect to independent Claim 23. Accordingly, Applicants respectfully submit that independent Claim 23 and the claims that depend are patentable over the cited references for at least the reasons discussed in Applicants' Amendment of March 28, 2007.

### CONCLUSION

Applicants respectfully submit that pending claims are in condition for allowance for at least the reasons discussed herein, which is respectfully requested in due course. Favorable examination and allowance of the present application is respectfully requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (919) 854-1400.

Respectfully submitted,



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### CERTIFICATION OF TRANSMISSION

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) to the U.S. Patent and Trademark Office on July 30, 2007.



Candi L. Riggs